ABSTRACT OF THE DISCLOSURE

The present invention concerns methods and reagents useful in modulating Parkinson genes, for example, PARK1 (SNCA), PARK2, PARK7, and/or PARK5 gene expression in a variety of applications, including use in therapeutic, diagnostic, target validation, and genomic discovery applications. Specifically, the invention relates to small nucleic acid molecules, such as short interfering nucleic acid (siNA), short interfering RNA (siRNA), double-stranded RNA (dsRNA), micro-RNA (miRNA), and short hairpin RNA (shRNA) molecules capable of mediating RNA interference (RNAi) against SNCA gene expression and/or activity. The small nucleic acid molecules are useful in the diagnosis and treatment of Parkinson Disease (PD), and any other disease or condition that responds to modulation of PARK1 (SNCA), PARK2, PARK7, and/or PARK5 expression or activity.